Commentary

Health Care Costs and Technologies

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Given our level of affluence, given the kind of democracy we are, given the way we feel about people in need, what is the right amount to spend on health care? Is there, in fact, a certain normative value? Or should we let the collective but rather individual habits of the American people determine this? Because there seems to be substantial national appetite for a cure, what should be the relationship between cost and cure? What are the trade-offs? Can we save costs in a way that preserves the quality of care? Or, as we reduce costs, do we also inevitably reduce quality of care, however we define quality?

By putting the issue in the form of such questions, I hope to avoid the clutter of the current health care economics debate. Instead, I plan to classify some of the intervention strategies that we now employ in health care and look at which, if any, are responsible for the situation we have been so quick to deplore—and what effect manipulating some of them might have.

I would like to discuss three categories of interventions. The first is the set of extraordinary technologies we have developed over the past 40 or 50 years that are, everybody agrees, high-quality, life-saving interventions. They represent the peak of standards of practice in the specialties. They are expensive. They require important and costly drugs and devices. They were developed at substantial cost to the nation, as it supported the basic research establishment and as industries made substantial capital investments in them.

The justification for public support of the basic research stream that feeds these developments and for the rest of the apparatus that installs them and reimburses for them is often based on the "burden of illness" fallacy: If disease A causes x number of deaths a year and y hospital stays at z cost, we can add up the hospital and physician-payment costs and make reasonable estimates of lost work time or foregone income (the place in the economy that these persons would have occupied had they been healthy). When we have added that up, it comes to some large number like $500 million; we are then told that a successful resolution of disease A is thereby going to save the American people $500 million. Of course, it does nothing of the kind because the people who are restored to health with whatever technology we devise will, if past is prologue, get something else. The something else is likely to turn out to be more expensive to cure than the disease we already cured. We all know about the proportion of all medical expenditures that are made in the last six months of life—so "burden of illness" relief really is illusory.

Perhaps no more dramatic example exists than the sequence of interventions that have been applied in cardiac surgical and medical therapy. Coronary bypass surgery has always had some controversy attached to it, but has nevertheless been widely used and has produced dramatic improvements in the quality of life for many patients. But it was extremely expensive in terms of surgeons' fees, intensive care unit and operating room time, and all the rest. It soon developed that although it did produce dramatic improvements for some persons, they frequently had to have the operation again in five to seven years. So what one had actually done was to ratchet costs upward. Then angioplasty came along. We appeared to have on our hands a simple, much less invasive procedure that would cost only a fraction of what coronary bypass surgery costs. It was indeed an elegant development and no doubt improved the quality of life for many. Yet if we examine data on the frequency of coronary bypass surgery in the United States, not even a nick in the curve is associated with the introduction and growth of angioplasty. Persons who have angioplasty eventually have to have something else done. It may be another angioplasty or, more often, a cardiac bypass surgical procedure.

I want to call these technologies by a new name (if you have a better one, I will be glad to substitute it!): "deferral technologies." Although they accomplish wonderful things and we want to use them, they do not save costs. They actually add to them, forming an escalator that drives the economics of health care upward in a relentless fashion.

Lewis Thomas, in a brilliant assessment of medical technology, called another class of technologies "halfway technologies." They are the best we have at the moment. Often they are cumbersome and expensive. They do produce modest gains in quality but at huge

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cost. They are plainly technologies on their way to being something better. Thomas's famous example was the iron lung for polio, which, of course, was replaced at a much lower cost by a vaccine.

A third class of technologies might be called "preventive technologies." They are highly effective interventions that add little cost because they are cheap themselves and because they often spare larger costs from more expensive interventions later. The kinds of things that come to mind are immunization programs against infectious diseases, accident prevention, violence prevention, and a whole array of monitoring and screening programs that attempt to identify disease early.

Now I want to pause here and promise you that this is not going to be another prevention lecture. I introduce that category only to pose what seems to me to be a fundamental question: Given our deep concern with cost, why do we not do more of the third and less of the first two? If we can have substantial improvements in quality at very little cost and so solve both of our problems with one shot, why do we not do more of it?

The reason is that many of this third class of interventions have another thing in common. They involve more or less serious intrusions into preferred modes of personal behavior. We are a highly individualistic society here in America. We resist control. Many of us have a strong preference for the present as opposed to the future. We find it difficult to defer gratification, and we operate in this country in a technology-development mode in which the primary incentives are economic ones.

These characteristics all militate against effective prevention. For example, smoking is the number one preventable public health problem in this country. Every time we suggest ways in which that particular threat could be reduced, we come across some very difficult problems. Some have to do with our hesitancy about regulation; some have to do with a certain reluctance about adding taxes. Perhaps most important of all, we run into deep difficulties because of the way people actually make their decisions. A remedy often offered for the smoking problem results from an analysis of who smokes and who does not. Smoking in this country is associated with income and education. But if you start to tease that connection apart, it turns out that education is the more robust predictor of smoking behavior—much more important than income. Indeed, the income effect is probably exerted through the education effect. I would have supposed that this occurs because people who get more education learn more about the hazards of smoking. They associate with persons who do not like to smoke and who have informative things to say about it; they therefore put out their cigarettes and vow to sin no more.

My colleague, Victor Fuchs, has taken a much closer look at this problem. He has taken a cohort of people and pushed the analysis back to when everybody had the same education level—say, age 17. You have a sample of people, all of whom have finished high school. Some will go on to college and some even to graduate school. But their smoking behavior is already established at the time they all have the same amount of education. In other words, the people who are not going to smoke are the people who are going to stay in school.

Let us not leap to the conclusion that this has to do with intelligence. (There may be some very smart people who are incapable of deferring gratification.) Fuchs thinks that it is because of a third variable, which is the source of the other two: some people simply have a different time preference than others. They are prepared to do almost anything to ensure a better future. Getting more education is part of that, and so is not smoking. This observation explains why many health behaviors tend to be associated with one another. Education, in this view, is one of a set of outcomes of a personality type or style that is capable of deferring present gratification in favor of the future.

It will be hard to design interventions that promote that kind of personal behavior. Indeed, we are experiencing contemporary lapses in prevention. Immunization has shown a disturbing trend since the early 1960s. Immunization rates for children in the United States are now poor and getting worse all the time. The rates for black children in the United States this year are the same as in Zimbabwe and Tanzania. That ought to be a source of substantial national embarrassment. But we are a nation that is unwilling to push people around a lot. In the absence of aggressive approaches—for example, a regulation that would make immunization compulsory—we have difficulty in getting such problems resolved.

Another illustration is our perplexing failure to begin to work on the most proven method for preventive treatment of viral diseases in the case of the acquired immunodeficiency virus (AIDS)—namely, the development of a killed or severely attenuated whole-virus vaccine. That is the strategy that has been successful in similar virally caused diseases. We are now spending $1.4 billion annually on AIDS research. People are arguing for more basic research and for more efforts to develop unit or recombinant vaccines based on specific antigens isolated from the AIDS virus. That is fairly sexy molecular biology, whereas developing whole-killed-virus vaccines is regarded as not terribly interesting or exciting. There also is an unwillingness on the part of government to overcome what is a clear case of market failure. You might see corporate activity in this sector if drug companies had not had a series of terrible experiences with vaccine development, both in terms of a return on investment (nobody wants to pay much for a preventive vaccine) and because of the fear of liability and the failure on the part of government to provide the necessary liability protection.

These examples illustrate a larger point. A substantial array of quality-neutral or quality-improving cost reductions would be available if only we were willing to stretch our definitions of the health care sector. If gun control were considered a public health intervention, for example, it could change a major source of mortality radically. But, like other interventions that violate our tradition of individual freedom, this one seems beyond our reach.